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INTERNATIONAL COOPERATION IN THE FIELD OF INFORMATICS

Note by the Secretary-General

1. At its second regular session of 1990, the Economic and Social Council considered the question of international cooperation in the field of informatics on the basis of a note by the Secretary-General transmitting a report prepared by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in consultation with the International Telecommunication Union (ITU) and the United Nations Industrial Development Organization (UNIDO). By resolution 1990/58, the Council recommended that international organizations, in particular UNESCO, UNIDO and ITU, continue to increase their efforts and activities in the field of informatics; called upon Member States to encourage and promote activities to expand the endogenous skills of their population in the field of informatics; and requested the Secretary-General to prepare a report on all aspects of international cooperation in the field of informatics for submission to the Council at its second regular session of 1991.

2. In response to that request, the Secretary-General has the honour to transmit herewith to the Economic and Social Council the follow-up report prepared by UNESCO.

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* E/1991/100.

Annex

FOLLOW-UP REPORT ON INTERNATIONAL COOPERATION IN THE FIELD OF INFORMATICS PREPARED BY THE UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION

1. At its second regular session of 1990, the Economic and Social Council discussed international cooperation in the field of informatics. The discussion, which was based on document E/1990/86, led to the adoption of resolution 1990/58, in which the Council requested the Secretary-General to prepare a report on all aspects of international cooperation in the field of informatics and the impact of informatics on the economic growth and development of the developing countries, including concrete recommendations for intensifying and strengthening international cooperation in that field in the context of the revitalization of economic growth and development of the developing countries, for submission to the Economic and Social Council at its second regular session of 1991.

2. The present report responds to that request and describes steps that have been taken, since the adoption of the resolution, with regard to international cooperation in the field of informatics, along the lines emphasized by the Council. In particular, the report endeavours to provide information on the activities undertaken by UNESCO with a view to reinforcing international cooperation in the field of informatics and providing a basis for adequate development and utilization of informatics in developing countries.

Contribution of informatics to technological upheaval

3. Over the past 20 years, there has been an unprecedented surge of activity in science and technology. New technologies have been developed in such varied sectors as the biosciences and biotechnology, microelectronics, renewable sources of energy, aviation and space, composite materials and so on. It is this volume of discoveries and, above all, their almost immediate technological application that make the surge of activities different from anything the world has previously experienced.

4. Informatics is an essential component of this revolution due to the role it plays in the acquisition, processing and communication of information indispensable to the development of know-how and knowledge. Few activities in today's world have been unaffected by this development. Informatics alters first the economic and then the political stakes, both within individual countries and in the relationship between countries, by setting its seal on a new balance of power. This already observable phenomenon becomes increasingly marked as time goes on and new developments emerge, pushing to the sidelines individuals and societies which, for one reason or another, have been unable to take the necessary measures to enable them to master and assimilate informatics and to apply it to their development.

5. There is every reason to believe that informatics is contributing to an upheaval comparable to technological revolutions like the agrarian revolution and industrial revolution already experienced by mankind, and which profoundly marked the period during which they occurred. Undoubtedly one of the most eloquent signs of this is the establishment witnessed today, of a planet-wide information and communication network based on the linking of computers with telecommunications, opening immense prospects for human relations. This amounts to a veritable explosion of new possibilities extending to every field of social activity and its effects are yet to be properly comprehended. Though a silent upheaval, none the less, it has the potential of being as radical as the invention of writing by the extension it provides for our memory, the transformation it is making in our information systems, the enhancement it is according our intellectual capacity and by the modifications that it heralds in our modes of organization and communication.

6. A principal challenge for the years ahead within the context of the accepted goal of peaceful coexistence will be to harmonize the realities of independent countries on the one hand and interdependent efforts and programmes on the other, in such a manner that peaceful cooperative interaction dedicated to the principles of equity and social justice for all becomes possible and effective. In this context, the area of international cooperation in informatics deserves special attention in view of the increasing interdependence and important transnational interactions in all phases of the field.

7. While it is evident that some nations are far ahead of others, informatics is nevertheless a developing domain. Thus, since it can be said that all nations are developing by virtue of the widely expanding applications and the dynamics of the state-of-the-art in this domain, there is an obvious value in cooperation and mutual exchanges of experience, know-how and technical information. In addition, the special needs of technical assistance to, and cooperation with and among, the less developed countries is of great urgency if they are also to profit from the contribution of informatics to their development. Finally, there are the areas of standardization, collaborative research and development, education and training, technology transfer and acquisition, joint undertakings and exchange of information, in which international cooperation is deemed essential to assist in orderly and effective development for the common good.

8. In its role as a vector of development, informatics might have provided the developing countries with a means of improving and bringing down the cost of resources management making the most of their potential and increasing their economic ouput, as in the industrialized countries. This occurred in only few cases, however.

9. Just as informatics has been assimilated and integrated into the development process in the industrialized countries, so it seems that most of the developing countries have been unable to exploit its capacity owing to both paucity of resources and shortage of qualified personnel. It is quite clear that in default of action, this situation may worsen still further in

the near future, as may be seen from the growing lead taken by the industrialized countries in the field of computer and telecommunication technologies.

10. These prospects necessarily compound the concern caused by the impact of technological development on economic imbalances. It is vitally urgent to remedy this situation by large-scale practical and effective action. Launched by the United Nations, action should be of a kind to interest and involve not only Governments but also governmental and non-governmental international organizations as well as producers of technology. The decisions to be taken with a view to reviving international cooperation in the field of informatics and its attendant technologies should be based on past experience, present-day reality, the importance of the issues at stake, the economic situation and its resulting power relationships.

Impact, trend and challenges

11. The economic impact of informatics is regarded as positive, given the condition of the rational exploitation of its potentiality. Informatics technology is becoming the driving force behind productivity. Its appropriate, or inappropriate, use has serious repercussions on the competitiveness of agriculture and industry, the efficacy of the tertiary sector, the cost and quality of education, defence potential and the ability to innovate in both the economic and the social fields.

12. Informatics provides an instrument for the modelling, design, development and management of technical and research projects of growing scope and complexity. It is also instrumental in the operation of complex interactive networks within a given society or among several countries. It thus gives rise to structural changes, not only in the production and service sectors and in their corresponding job structures, but also in the conditions governing the activity of these sectors.

13. The effects of advanced technologies, especially informatics, on the social and cultural context are subjects for concern in nearly all countries. Taken in conjunction, the technologies of information, telecommunications and of audio-visual communication all raise the problem for society as a whole of preserving the diversity of cultures and the advantages of intercultural dialogue and, for the individual, that of preserving the benefits of conviviality in the family and in different social gruops.

14. The early realization by the industrialized countries of the economic consequences of the use of informatics is reflected in its widespread use in these countries, where the value of the computer population has attained or exceeds 2 per cent of their gross national product: 95 per cent of all installed computers are to be found in those countries, compared with 3.3 per cent in Latin America, 1.6 per cent in Asia and less than 0.5 per cent in Africa.

15. This realization also took place in many developing countries, but at a much later date. In addition, in a number of these countries, it proved impossible to develop informatics owing to the inadequacy of human and material resources, the existence of other essential priorities, the weakness of the production and management activities that create a demand for data processing, the poor standard of telecommunications equipment, the lack of the appropriate scientific and technological environment and of the structures and skills needed for large-scale action to train specialists or users.

16. In a market dominated by a small number of firms, the industrialized countries that were technology exporters made great efforts, either individually or in cooperation, to strengthen the research and development and industrial production sectors, including informatics-related services. These countries then attained a high degree of mastery in the preparation of software programmes, and acquired a substantial industrial capacity, even if they were still backward in certain types of advanced technology.

17. A small number of developing countries managed to acquire industrial expertise, either through subcontracting or as a result of a political decision. In other countries, informatics products (hardware, supplies and sometimes software application programmes) are generally imported. This situation is aggravated by insufficient joint planning and cooperation among the developing countries themselves.

18. Imbalances in the master of informatics technologies and their dissemination occur not only between the industrialized and the developing countries but also between groups of countries both in the North and in the South, and sometimes among the different sectors of economic activity within a single country.

19. The conviction that the information technologies were the leaven of a metamorphosis of civilization was strengthened by the observation of many measurable phenomena. All human activities are now concerned by societies' capabilities to convert, process, stock and communicate information, linked with the progress of electronics, telecommunications and informatics. The productivity of labour, the organization of government, different modes of consumption, education, morals and culture are being transformed. What is involved is not only the birth of a society of information and communication but also the advent of a civilization of knowledge, which brings with it new skills, new ways of teaching them and new patterns of behaviour.

20. The abrupt leap forward caused by informatics has only widened the gap between those who are the most advanced and those who are the most deprived, with the result that, in a world that is becoming more and more heterogeneous, a large number of intermediary situations may be observed:

> Regions which have remained at the stage of an economy based on agriculture and crafts, frequently with raw materials as their only source of wealth: these comprise the developing countries;

Other regions whose state of development and outlook have long since brought them into the industrial era;

A few countries constituting highly favoured areas of development, in which the most sophisticated technologies emerge and flourish and in which practically all the means of producing these new technologies are also concentrated.

21. Some figures of magnitude should be borne in mind to gain a proper understanding of the scope of the problems to be tackled.

22. Of all expenditure on informatics and information technolgies in general, 95 per cent is incurred in the industrialized countries and barely 5 per cent in the developing countries. This corresponds to the following approximate geographical distrilution of production:

North America	Some 40 per cent
Western Europe	20 to 25 per cent
Japan and newly industrialized South-East Asian countries	20 to 25 per cent
The rest of the world	20 per cent

23. The investments envisaged for the 1990s give a further idea of the size of the phenomenon:

	Thousands of United States dollars
World turnover figures for the producer industries and activities directly connected with information technologies	1 000 million
Evaluation of annual research and development activities	50 million
Evaluation of annual investments in new software	50 million

24. The gaps noted at the production level are naturally reflected at the investment level. The industrialized countries devote between 3 per cent and 5 per cent of their GNP to informatics facilities, compared with less than 1 per cent for the developing countries. These gaps are accentuated by the fact that the cost of information is higher in the developing countries than in the advanced countries.

Place of informatics in UNESCO

25. Informatics has been given high visibility in the new Sector for Communication, Information and Informatics (CII) established in September 1990

to take account of the growing convergence of the three programme areas closely involved in the development and application of information technology. In this structural change, the unit responsible for informatics, which also serves as the secretariat of the Intergovernmental Informatics Programme (IIP), has been brought up to the level of a division, and its staff almost doubled. In addition, an Intersectoral Committee on Informatics has been established for the coordination of informatics activities within the framework of the programmes of UNESCO, since its informatics activities are undertaken in all areas of its competence. The Intersectoral Committee, chaired by the Deputy Director-General for Programme and serviced by the secretariat of IIP, aims, therefore, at streamlining actions, promoting collaboration among programmes and avoiding duplication of effort.

26. This high visibility is confirmed in the draft programme and budget for 1992-1993 to be examined by the General Conference of UNESCO at its twenty-sixth session in October/November 1991, where informatics is presented as a fully fledged programme, essentially focusing on human resources development, with an increase of 60 per cent in regular budget allocation compared with the previous biennial exercise.

Recent UNESCO activities in the field of informatics

27. Within the framework of UNESCO's regular programme and budget, training activities have been accorded high priority. Training courses on teleinformatics, sofware engineering, expert systems and articifial intelligence were organized in Europe to respond to the requirement of updating of knowledge. In terms of acquisition of knowledge, long-term training courses were actively supported in the developing countries. Falling within these categories of training courses are two university postgraduate training courses and two professional training courses supported in the Africa region, one postgraduate diploma course supported in the Arab region, and one high-level training course in the Latin America and Caribbean region. Training was also provided in terms of workshops and seminars, such as a workshop entitled "Informatics in the Management of Education and Research Activities" and an international seminar entitled "Practical Computer-aided Decision-making Systems", both organized in the Asia region. Some study grants were awarded to young graduates, including women, to enable them to undertake specialized studies in informatics.

28. With regard to the dissemination and exchange of information on informatics, support was given to regional newsletters and to an international journal, Information Technology for Development, which serves as an exchange forum between informaticians from developing countries on the one hand, and their counterparts from developed countries on the other. Cooperation was continued, especially with the International Federation for Information Processing (IFIP), which organized the Fifth World Conference on Computers in Education (WCCE/90) in Australia and an international workshop entitled "Informatics Curricula for the 90's" in the United States of America, both with the support of UNESCO.

29. Informatics activities were also carried out within the framework of Priority Africa. This is a special programme of UNESCO aimed at contributing to development in Africa. It is the subject of resolution 27 adopted by the UNESCO General Conference at its twenty-fifth session, in November 1989. The programme comprises a series of innovative activities designed to develop the national capacities of African member States. To this end, its major goal is to give effect to the main lines of action of the United Nations Programme of Action for African Economic Recovery and Development 1986-1990, adopted in June 1986. As a special programme it seeks essentially to help African countries to overcome difficulties of an economic, social and cultural nature through the promotion of international, regional and subregional cooperation.

30. Informafrica, which is the contraction of "Informatics and Africa", is the name given to the project designed in the field of of informatics within the framework of Priority Africa. The project is aimed at contributing to the development of informatics and its rational utilization in the development of the region, essentially by spreading informatics education to schools, post-school education and higher education, so that informatics becomes part of literate culture in the region.

31. To launch the project, an Informafrica Seminar was held at Lomé, Togo, from 3 to 7 December 1990. Organized in cooperation with the Agency for Cultural and Technical Cooperation (ACCT), and with the collaboration of the University of Benin, at Lomé, the seminar, in addition to discussing the policy and strategy of integrating informatics into general education, examined in great detail the following three aspects: informatics as a subject to be taught and learnt; informatics as a teaching aid; and informatics as a tool for management. As the participants saw it, the final report of the seminar should form the basis for a regional programme of action ensuring a coherent effort of cooperation among African member States and between them and the international community. The Informafrica Seminar was attended by delegates from 37 African member States, two intergovernmental organizations, two non-governmental organizations, four educational institutions, two private institutions, a multilateral financing agency, and 19 experts invited by UNESCO and ACCT. For its part, UNESCO has earmarked for Informafrica an amount of $US 850,000 in its draft programme and budget for 1992-1993. It will be used for catalytic actions aimed at the implementation of the programme and for the mobilization of complementary extrabudgetary funding.

Intergovernmental Informatics Programme (IIP)

32. Reinforcement of regional capacities in informatics and assistance towards formulation of national policies and strategies constitute the main focus of the Intergovernmental Informatics Programme, whose projects are financed from voluntary contributions and funds-in-trust provided by member States and, to a lesser degree, from UNESCO's regular budget. Within this framework, the implementation of major regional informatics projects, including the creation of regional academic networks, were given priority. Projects undergoing execution in differnet regions of the world are as follows:

Latin America and the Caribbean

Development and production of courseware in the Spanish-speaking countries of South America. This project is based in Peru.

Establishment of an information network on educational software. The project is based in Argentina.

Establishment of a regional informatics training centre for teachers of engineering and architecture based in Cuba.

Formulation of a national informatics policy undertaken in Uruguay.

Africa

Establishment of a postgraduate training course in informatics applied to water sciences in the Institut Inter-Etats d'Ingénieurs de l'Equipement Rural (EIER). The project is based in Burkina Faso.

Computer Software for Teaching of Science and Technology in Secondary Schools. The project, which is based in Nigeria, is associated with the one in Côte d'Ivoire.

Software production for science and technology teaching. The project, which is based in Côte d'Ivoire, is associated with the one in Nigeria.

Training course for computer engineers at ENSUT. The project is based in Senegal.

Training in microcomputer maintenance. The project is based in Togo.

Asia

Establishment of cooperative centres for out-of-school informatics training. The project is based in China.

Network experiment between India, Mongolia and Nepal. The project is based in India.

Arab States

Setting up of a mobile microcomputer facility for remote areas. The project is based in Jordan.

Strengthening of the regional scientific and technological information network (ASTINET) among Arab States. Its base is the UNESCO Regional Office for Science and Technology in the Arab States, Cairo.

Europe

International training and consultancy centre for informatics. This is based in the USSR.

33. Another set of projects approved in March 1991 by the Bureau of IIP for financing is listed in the appendix below. There are other projects submitted to IIP awaiting financial resources for execution. This is why IIP is continuously making appeals for further voluntary contributions from member States.

34. In addition to the execution of major projects in the regions, IIP has strengthened its contact world wide by establishing a network of focal points. The role of the focal points is essentially to generate dynamics of regional cooperation between the same region, and provide an active interface between the country and IIP with regard to specialized informatics institutions, needs and potentials of the different countries. Seventy-three national focal points have been designated so far by the various member States and have been receiving regular information on IIP activities.

Need and framework for international cooperation and coordination

35. Over a decade after the SPIN Conference, and despite the efforts made, there are still no answers to many of the problems raised. It should not, however, be inferred that the balance sheet of international cooperation is entirely negative. Some progress has been made, especially as regards awareness of the problem, since there is no longer any doubt as to the very close relationship between informatics and development. It is true that mistakes have been made, the greatest of which was probably that of giving priority to equipment and importing ready-made solutions to the problem of trained personnel, the only source of lasting progress.

36. The main objective today, more than ever before, is the constitution of endogenous potential through the development of existing skills. The main industrialized countries have practically attained this objective. Admittedly it should be stressed that for purely economic, or sometimes political and economic reasons, they succeeded in pooling their resources. Whether in the West or in the East, the European countries united their efforts to undertake large-scale informatics projects, for in such a complex field of activity only a very few countries can expect to manage on their own. Examples in Western Europe are the Eureka and Esprit projects, and in the Eastern European countries the projects being developed in the framework of the Council for Mutual Economic Assistance (CMEA), not to mention the varied technological exchanges between multinational corporations and within certain highly industrialized societies such as Japan and the United States of America.

37. For their part, the developing countries, faced with all sorts of problems, have to cope with a present situation fraught with difficulties and prepare for a future whose outlines are often uncertain. Only international cooperation can lead to positive developments.

38. One obvious fact needs to be emphasized again: the world is interconnected, the fate of each individual is the fate of all. Those who share a common destiny must have recourse to solidarity, which takes the practical form of cooperation. Cooperation is then the equivalent of peace. That is the meaning of the Mexico City Declaration, signed by a large number of heads of State and Government.

39. Properly used, informatics can provide opportunities for those who have mastered it. The enormous demographic growth of the South calls for a technical and organizational revolution in the production and distribution of wealth. Mastery of the new technologies can make young people the real source of wealth, in both the North and the South. The developing countries, whose human potential has increased in number and gained knowledge and experience, have the possibility of using informatics as a short cut towards economic development and greater well-being in a world in which competition has inescapably to be reckoned with.

40. Experience has shown that international cooperation in informatics, as in fact is the case in other areas, calls for a universal framework. All countries, large or small, rich or poor, industrialized or developing, must participate in action and reflection. However, nothing can be done, or well done, without the participation of the industrialized countries, which have a mastery of informatics and conduct a profitable trade in it.

41. In addition, the effort of cooperation cannot replace a national effort; it must accompany it, promote it and make it succeed.

42. This being the case, the United Nations framework appears to be the most appropriate one from which to launch international cooperation in informatics. Given the multidisciplinary nature of informatics and the experience gained from the efforts of IIP it is clear that inter-agency cooperation is the key to the development dissemination of informatics technologies.

43. Three organizations are more specially concerned than the others by the development of the new technologies in general:

UNESCO with regard to training, research and innovation;

ITU with regard to the development of telecommunications;

UNIDO with regard to the establishment of industrial processes.

44. The other organizations are users, developers and promoters of informatics specific to them which are of interest to member States.

45. A first step might be substantially to reinforce the means allocated to cooperation in each of the organizations dealing with informatics and its associated technologies.

46. In this process the role of UNESCO would be primordial, since UNESCO takes action at an earlier stage than the others: there is a universal need for specialists trained to undertake tasks and researchers equally well trained and equipped to make innovations. The work of training must be carried out as part of school and university curricula. Once they have personnel trained in informatics, the developing countries will be able to take action in important areas such as systems maintenance, the production of software and the development of new applications.

47. In countries with a need and potential, action in the hardware and software industry would be coordinated within UNIDO, whose special field this is. The revolution caused by the introduction of personal computers into daily life, especially the workplace, has opened up a different educational dimension. Through the organization of seminars, workshops and study tours, industrialists can be made aware of the role informatics would play in their working environment. UNIDO assists developing countries: through the application of informatics in promoting its use in many technical assistance projects dealing with industrial processing. One of the most common methods is the use of CAD/CAM systems. By providing access to the information resources, including informatics technology by developing and maintaining UNIDO information systems, the UNIDO technology information group is making its presence felt, not only in developing countries, but in industrialized ones as well. INTIB, TIES and the like are just examples of such information systems. By establishing viable software industries that will respond to the needs of the local market place and by computer-assisted learning at the industrial level UNIDO promotes and expands the use of informatics in industry.

48. There cannot be networks without communication inputs. In that respect, everything that ITU can do to improve the state of communications in the developing countries or that it can obtain by way of facilities for exchanges will be of advantage to informatics.

49. UNESCO and ITU have cooperated for several years in their various domains of interest, without any formal agreement governing this cooperation. However, it was recently felt that the time had come for a formal agreement in order to ensure better coordination of programmes and projects concerned with telecommunications, communication and informatics, in order to avoid duplication of effort in these areas and to combine the human resources of both organizations for project identification, planning and execution. Preliminary negotiations between the UNESCO and ITU secretariats resulted in the elaboration of a draft agreement which was examined by the ITU Administrative Board at its meeting held from 27 May to 7 June 1991 and will be submitted to the UNESCO Executive Board at its 137th session, in October 1991. Such an agreement may go some way towards satisfying the Economic and Social Council resolution.

50. In addition, UNESCO initiated consultations with both ITU and UNIDO during the third session of the Intergovernmental Informatics Programme, in November 1990, to which those two organizations, as well as the United Nations University had been invited. It was felt within UNESCO, however, that a more

formal mechanism was needed to provide a framework for and give real impetus to cooperation in the field of informatics within the United Nations system, and that such a mechanism could be established under the aegis of the Administrative Committee on Coordination (ACC). This approach was submitted for consideration to the UNESCO Executive Board, which adopted the decision set out below at its 136th session (May-June 1991). The Economic and Social Council may wish to endorse the decision.

The Executive Board,

Having noted resolution 1990/58 adopted by the Economic and Social Council at its second regular session of 1990 in respect of international cooperation in the field of informatics,

Reaffirming the importance of the development of informatics as an instrument for international cooperation,

1. Invites the Director-General to continue to strengthen informatics activities and the Intergovernmental Informatics Programme (IIP);

2. Requests member States to give active support to informatics activities at the national level and step up their participation in international collaboration in this domain, particularly by making generous voluntary contributions to IIP;

3. Recommends the setting up of a coordinating mechanism comprising UNESCO, ITU and UNIDO for the purpose of regular consultation and coordination on informatics matters within the United Nations system.

Appendix

PROJECTS APPROVED IN 1991 DURING THE FIFTH SESSION OF THE BUREAU OF THE INTERGOVERNMENTAL INFORMATICS PROGRAMME

Africa	
Uganda	Sensitization and training in informatics of decision makers, informatics specialists and trainers.
Senegal	Centre for software production and preparatory training of graduates.
Latin America and the Caribbean	
Argentina	Information network on educational software: second phase.
Chile	Establishment of a centre for technology transfer in knowledge engineering.
Colombia	Development of a migration method from 3rd to 4th or 5th system generation.
Cuba	Centre of training of teachers and specialists in informatics for industry.
	Regional training centre in informatics for teaching and research in engineering and architecture: second phase.
Ecuador	Training of Ecuadorian civil servants in informatics.
	Conference of Latin American authorities in informatics (CALAI).
Uruguay	Al Sur: Multimedia centre for scientific and technological resources.
Asia and the Pacific	
China	Renovation of the Beijing Microcomputer Centre.
Indonesia	Software production for computer and technology teaching.
Iran, Islamic Republic of	Implementation of a computer centre at Mashad University of medical sciences and postgraduate activities.

New Zealand	Regional Informatics Network for South East Asia and the Pacific: design phase.
Sri Lanka	Strengthening of a microcomputer laboratory for the University of Colombo.

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OPERATIONAL ACTIVITIES FOR DEVELOPMENT: WORLD FOOD PROGRAMME

ECONOMIC AND SOCIAL COUNCIL
Second regular session of 1991
Item 11 of the provisional agenda**
OPERATIONAL ACTIVITIES FOR DEVELOPMENT

Participation of the United Nations in the review of the governance arrangements of the World Food Programme

Report of the Secretary-General

INTRODUCTION

1. In its resolution 45/218 of 21 December 1990, the General Assembly recognized the need for improved governance arrangements for the World Food Programme (WFP) consistent with its programme requirements, its accountability to member States and its characteristics as an entity of the United Nations system, urged the Committee on Food Aid Policies and Programmes to complete expeditiously its review of governance arrangements and requested the Secretary-General to continue to participate fully in the review of governance arrangements of WFP and to report to it at its forty-sixth session, through the Economic and Social Council, on the participation of the United Nations in the review of those governance arrangements. In pursuance of that request, the Secretary-General submits herewith a report on the participation of the United Nations in the review.

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* A/46/50.

** E/1991/100.

II. WORK OF THE COMMITTEE OF FOOD AID POLICIES AND PROGRAMMES

2. At its twenty-ninth session (4-7 June 1990), the Committee of Food Aid Policies and Programmes (CFA) decided to undertake a review of the governance of WFP and the relationship between the United Nations, the Food and Agriculture Organization of the United Nations (FAO) and WFP, and to establish a subcommittee to study and make recommendations regarding the proposals put forward by the member States, the Executive Director of WFP, the Director-General of FAO and the Secretary-General of the United Nations.

3. Recognizing the need for improved governance arrangements for WFP consistent with its programme requirements, its accountability to member States and its characteristics as an entity of the United Nations system, the Economic and Social Council, in its resolution 1990/79 of 27 July 1990, welcomed the decision of CFA to establish a subcommittee to review the governance of WFP and the relationship between the United Nations, FAO and WFP.

4. In order to facilitate participation of the United Nations in the work of CFA and its subcommittee in that review, the Secretary-General appointed Mr. Peter Hansen, Executive Director, United Nations Centre on Transnational Corporations, to coordinate the preparation and participation of the United Nations.

5. In a letter dated 2 August 1990 to the Director-General of FAO, the Secretary-General expressed his conviction that a positive response to the concerns expressed by Member States would facilitate a solution to the various existing difficulties, and he assured the Director-General of the full cooperation of the United Nations in providing such a positive response.

6. In preparation for the task, the United Nations carried out, inter alia, a review of the administrative and financial aspects of existing and proposed modalities of the relationship between WFP, FAO and the United Nations, taking into account various arrangements between the United Nations and its subsidiary bodies and organizations that enjoy a different degree of autonomy, particularly programmes such as the United Nations Development Programme, the United Nations Children's Fund, and the United Nations Population Fund.

7. At the opening of the first session of Subcommittee on the Governance of the World Food Programme (3-11 September 1990), the Secretary-General, in his message, stated that WFP, since its inception in 1961 as an experimental programme of approximately $100 million, had become an established and major actor in the operational activities for development of the United Nations system, with a current target for contributions of $1.5 billion and that the development of WFP operations justified a careful review of the basic arrangements governing its management.

8. The Secretary-General was of the view that, as a general policy, it was important to maintain the principle of a close relationship between WFP and FAO and the United Nations and to maintain WFP as equally balanced between the two parent organizations. The arrangement envisaged was one of close

cooperation. It was stressed that within that general institutional framework a wide range of organizational arrangements was possible with regard to intergovernmental supervision and direction (CFA) and the secretariat, and that it was up to delegations to recommend those arrangements which would best meet the needs of WFP. The central concern was that WFP should have the capacity to carry out its mission in an effective manner. As WFP was not solely a subsidiary organ of either the United Nations or FAO, but a joint organ, the Executive Director of WFP should have the necessary authority to administer it under his responsibility and under the guidance of CFA.

9. The first session of the Subcommittee focused its deliberations on issues related to (a) the role of CFA, (b) the role of the Executive Director of WFP, (c) the relationship of WFP with the United Nations and FAO, and (d) general principles of food aid policies. Further discussion took place at the second session of the Subcommittee (8-12 October 1990) on issues related to (a) the size and composition of CFA, (b) authority over the Trust Fund and (c) emergency operations, in addition to the issues discussed at the first session.

10. In the course of the discussion in the Subcommittee, the Representative of the Secretary-General was called upon to comment on various proposals and issues raised by delegations.

11. Although no agreement was reached at the first and second sessions of the Subcommittee on specific recommendations to CFA, there was a wide range of convergence of views in many areas, including:

(a) The strengthening of CFA to provide intergovernmental supervision and direction of WFP, including the enlargement of its membership;

(b) The provision of greater authority to the Executive Director of WFP to administer the Programme, including personnel, administrative and budgetary matters;

(c) The need for the United Nations and FAO to remain parent bodies of WFP in a relationship based on close cooperation.

12. CFA, at its thirtieth session, considered the report of the Subcommittee on the work of its first and second sessions. In order to finalize its own proposals on this question, CFA established a sessional working group to present recommendations. On the basis of the proposals of the working group, CFA adopted by consensus a package of recommendations relating to the governance of WFP. CFA also decided that the working group should meet for one week from 28 January 1991 to translate the agreed recommendations into specific revisions of the General Regulations for WFP.

13. CFA requested the Office of Legal Affairs of the Secretariat to prepare, in consultation with FAO and WFP, starting texts for consideration by the working group.

14. In pursuance to that request, the Office of Legal Affairs prepared and submitted to the working group a proposed revised text of the General Regulations, after consultation with FAO and WFP.

15. The working group of CFA met from 28 January to 1 February 1991. It expressed its appreciation for the comprehensiveness and timeliness of the starting text of the revised General Regulations as prepared by the Office of Legal Affairs, and considered carefully the comments and clarifications of the legal experts and representatives from the United Nations, FAO and WFP.

16. After examining the proposals contained in the starting text in light of the terms of reference established by CFA, the working group recommended by consensus draft revised General Regulations for consideration by CFA at its special session to be held in March 1991. The working group also recommended for consideration of CFA draft resolutions forwarding the draft revised General Regulations to the Economic and Social Council and the Council of FAO and from the Economic and Social Council and the Council of FAO to the General Assembly and the FAO Conference.

17. The working group further recommended that at its special session the Committee should instruct the Executive Director of WFP to prepare draft financial regulations for approval as soon as possible by CFA after receiving advice from the Advisory Committee on Administrative and Budgetary Questions and the FAO Finance Committee.

18. The special session of CFA took place on 18 and 19 March 1991 (see E/1991/69). At that session the Committee adopted by consensus and as a whole the report of the working group and its recommendations.

19. The Secretary-General stated in a message that the United Nations welcomed the consensus reached by the member States on the governance of WFP. It also welcomed the decision made to maintain WFP as a joint programme of the United Nations and FAO, thereby reaffirming the important linkage of food aid to development, on the one hand, and to food production and nutrition, on the other. The Secretary-General in his message also expressed his confidence that with the proposed changes, WFP would be able to improve further on its impressive performance, while continuing to draw upon the technical services of FAO and the United Nations, as well as other appropriate organizations of the United Nations system. It was hoped that the changes would bring about closer cooperation between WFP and its parent organizations. Such cooperation was not only desirable but essential, given the complexity of development problems and the increasingly protracted nature of emergency assistance. The United Nations expressed its readiness to review how it could provide better support to WFP to ensure the development underpinnings of its activities.

20. The Secretary-General further stated that the United Nations welcomed in particular the recommendation to include in the revised regulations a provision for the Secretary-General to draw on WFP in providing humanitarian relief assistance. That would enable the United Nations to provide such assistance in a timely manner. To that end, the United Nations expressed its

willingness to continue to coordinate its activities fully with those of concerned organizations of the United Nations system and with the efforts of non-governmental organizations.

21. In conclusion, the Secretary-General expressed the hope that with the envisaged changes, the Programme would enjoy even greater support from the international community, and he called upon all Governments in considering their support and contributions to the Programme to take fully into account the increasing needs for food aid as development assistance as well as for emergency purposes. He stated that WFP had proven to be an effective multilateral instrument for emergency and development assistance and that with better governance it deserved greater support for its future activities.

III. DELIBERATIONS OF THE FAO COUNCIL

22. The FAO Council, at its ninety-ninth session held in Rome from 10 to 21 June 1991, reviewed the recommendations of CFA on the governance of WFP and the relationship between the United Nations, FAO and WFP. Members of the FAO Council welcomed the recommendations reached by consensus at CFA and decided to transmit to the FAO Conference for its adoption the draft recommendations of CFA on this question.

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INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION

Report of the Secretary-General

SUMMARY

In accordance with requests contained in resolutions 44/236 of 22 December 1989 and 45/185 of 21 December 1990, the present report contains information on the implementation of the plan of action for the International Decade for Natural Disaster Reduction. It reviews activities undertaken at the country level and by organizations of the United Nations system, and also outlines organizational and financial arrangements.

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I. INTRODUCTION

1. In designating the 1990s as the International Decade for Natural Disaster Reduction in its resolution 44/236 of 22 December 1989, the General Assembly decided to include on the agenda of its forty-sixth session an item entitled "International Decade for Natural Disaster Reduction" and requested the Secretary-General to report biennially on the activities of the Decade to the Assembly through the Economic and Social Council. At its forty-fifth session, the General Assembly, taking note of the progress report submitted by the Secretary-General (A/45/621), in its resolution 45/185 of 21 December 1990 also requested the Secretary-General to report on the implementation of the programmes and activities of the Decade.

2. It will be recalled that the General Assembly's recommendations on the implementation of the Decade were contained in the International Framework of Action for the International Decade for Natural Disaster Reduction annexed to resolution 44/236, which also defined the organizational arrangements for the Decade. The present report contains information available as at 23 May 1991 on the implementation of programmes and activities of the Decade and on organizational and financial arrangements. An addendum will be issued later in the year providing up-to-date information and also making available the annual report of the Scientific and Technical Committee, which is also requested by the General Assembly in resolution 44/236.

II. INTERNATIONAL FRAMEWORK OF ACTION FOR THE DECADE

A. General

3. In the annex to resolution 44/236, the General Assembly established the International Framework of Action for the Decade, containing guidelines on policy measures to be taken at the national level and actions to be taken by the United Nations system, and providing for organizational and financial arrangements, including the setting up of a special high-level council, a scientific and technical committee and a secretariat. Information on the implementation of that decision follows. It can be observed that, in this first period of the Decade, the policy commitment embodied in the proclamation of the Decade by Member States of the United Nations as at 1 January 1990 has been consolidated through the progressive establishment of national committees and focal points for the Decade, which has required internal policy decisions and, in some instances, legislation. This gradual process indicates that the new emphasis on action to be taken before the occurrence of disasters, compared with the current prevailing trend of ex post facto response, is beginning to emerge.

B. Policy measures at the national level

4. As proposed in recommendations of the International Ad Hoc Group of Experts (A/44/322/Add.1-E/1989/114/Add.1), that led to the launching of the Decade, the major focus for policies and activities designed to reduce the vulnerability of socio-economic systems to major hazards lies with the vulnerable countries themselves, as part of the national development process. In this early phase of the Decade, a growing number of countries have taken measures to develop national disaster mitigation programmes, which include economic aspects, the monitoring of the major natural hazards, the development of structural and non-structural measures, the establishment or improvement of early warning systems and the setting up of preparedness measures. Taken as a whole, all these steps will eventually become part of coherent national policies designed to reduce the impact of disasters. In these actions, a major part is being played, as recommended by the General Assembly, by the national committees for the Decade.

C. National committees and focal points

5. National committees are established in cooperation with relevant scientific and technological committees and other concerned sectors. To date, close to 90 national committees or focal points have been set up, each with varying terms of reference and legislative authority; frequently, existing disaster management mechanisms have been restructured to reflect the newly recognized objective of disaster prevention and preparedness. A list of national committees for the Decade is given in the annex.

6. The growing number of national committees indicates that their pivotal role in implementing Decade activities at the national level has been recognized and that they will also be in a position to contribute at regional and interregional levels. National committees are in fact assisting in identifying national priorities, formulating and implementing disaster mitigation and prevention plans, developing and monitoring projects, as well as providing information and advice to concerned Governments, public services and related organizations, and to the general public sector as a whole. Naturally the composition of individual national committees varies in relation to a number of factors, including the level of development of the country concerned, the capacity and expertise available, and the frequency and nature of natural disasters likely to affect the country, as well as the level of awareness of the potential benefits of disaster mitigation.

7. One of the essential tenets of the Decade concept is that natural disaster mitigation policies should be effectively implemented with the assistance of national committees in the context of national development plans. In this light, it has been estimated that the material and economic impacts of a serious natural disaster in some countries can undo up to five years of hard-earned development progress. The more these impacts can be reduced, the greater will be the contribution of disaster reduction measures to the development process. Conversely, planning for development must take into account disaster vulnerability.

8. With that in mind and in order to prepare for the work of the Scientific and Technical Committee, the secretariat of the Decade has written to national committees with a view to identifying problems and gaps at the national level. The replies received to date indicate that few national committees are at this stage in a position to function effectively and it is obvious that many of them will need advice and support. There is clearly an urgent need on the part of Governments for information on the purposes and functions of national committees, on the optimum composition of such committees and on the contributions they can make to national development. These views have been recognized, particularly by the Scientific and Technical Committee, which has made a number of recommendations in this direction. The required advisory material, which was contained in the appendix to the Secretary-General's proposals for the launching of the Decade (see A/44/322-E/1989/114), will be updated and further disseminated through the IDNDR Newsletter, contacts with national committees and their planned regional meetings. In so doing, advantage will also be taken of the assistance of the United Nations resident coordinators at national levels, as well as the assistance of national emergency teams being established as a result of the ongoing United Nations Development Programme (UNDP)/Office of the United Nations Disaster Relief Coordinator (UNDRO) training programme mentioned later in the present report. The question of resources to support implementation of disaster mitigation policies has also been identified and will have to be addressed.

D. Major meetings and events organized in connection with the Decade

9. It is encouraging to note that since the beginning of the Decade there has been a growing number of international, regional and national meetings relating to a wide variety of disaster mitigation aspects within the Decade. A calendar of major Decade-related events, which is also regularly updated and distributed, will be made available. More detailed information on a few of the more relevant meetings is given in the following paragraphs. The focus of these meetings indicates that increasing attention is being paid to enhancing the awareness of the potential benefits of disaster mitigation.

International Decade for Natural Disaster Reduction International Conference (27 September-3 October 1990, Japan)

10. The purpose of this major Conference, held at Yokohama and Kagoshima and organized by the Government of Japan, the City of Yokohama, the Kagoshima Prefecture and the United Nations Centre for Regional Development, was to exchange ideas and experiences and to discuss international cooperation and regional development planning for natural disaster reduction. It was attended by some 1,300 administrators and scientists from 43 countries and 10 international organizations. The United Nations Disaster Relief Coordinator and the Director of the Decade secretariat both participated in the Conference, the proceedings of which were brought to the attention of the General Assembly at its forty-fifth session.

Workshop on Prediction and Perception of Natural Disasters (23-26 October 1990, Italy)

11. This tripartite meeting, organized by the Italian National Research Council, the United States National Science Foundation and the Decade secretariat, was attended by 70 experts from 21 countries and from United Nations and other intergovernmental and non-governmental organizations. The purpose of the workshop was to conduct an analysis of the relationship between scientific prediction and the actual perception in society of the threat presented by natural hazards. There is in fact a worrisome gap between the hazard assessment and prediction made by the scientific world and their understanding outside the scientific sector, particularly among the exposed population, the information media and the responsible authorities. A number of recommendations were made for follow-up action during the Decade.

Economic and Social Commission for Asia and the Pacific/Office of the United Nations Disaster Relief Coordinator Regional Symposium on the International Decade for Natural Disaster Reduction (11-15 February 1991, Thailand)

12. This Regional Symposium was organized and held at Bangkok by ESCAP, in cooperation with UNDRO and with generous financial support from Japan, to mark the launching of the Decade in the ESCAP region and identify regional priorities for implementation. Participants from 22 countries that are members and associate members of ESCAP attended. Representatives of organizations of the United Nations system, including the Director of the Decade secretariat, and representatives from other organizations also attended. The symposium covered all aspects of natural disaster reduction and prevention and produced a plan of action supported by numerous recommendations, including a proposal to create a policy-level committee at government level to oversee the activities of the Decade and the need to convene regional meetings of representatives of national committees leading to a global conference towards the middle of the Decade.

International Decade for Natural Disaster Reduction Think Tank meeting in preparation for the first session of the Scientific and Technical Committee (12-15 November 1990, Italy)

13. This meeting was convened by the Decade secretariat at the invitation of and with support from the Italian Minister for Civil Defence and with financial assistance from UNDP, in order to identify those tasks which could usefully be accomplished by the first session of the then newly established Scientific and Technical Committee, the membership of which had been announced by the Secretary-General on 6 November 1990. Participants included some members of the new Committee as well as some members of its predecessor, the International Ad Hoc Group of Experts, together with other experts from various government, academic and private sectors and the United Nations system. The meeting was highly productive and made extensive suggestions concerning intermediate targets to guide implementation activities in the context of a proposed framework programme for the Decade; the Think Tank also identified certain criteria for project approval, as well as many of the key

actors in the Decade. The meeting was the first step in the preparation of the inaugural meeting of the Scientific and Technical Committee.

Inter-Agency Working Group (18-20 December 1990, Geneva)

14. As a follow-up to the above meeting, this Working Group convened by the Decade secretariat brought together 19 experts representing 14 organs and organizations of the United Nations system. The sessions were chaired by the Director of the Decade secretariat and by the Deputy to the United Nations Disaster Relief Coordinator. The main purpose was to consolidate and refine the advice received from the Think Tank meeting with a view to facilitating the preparation of documentation for the Scientific and Technical Committee and the submission of appropriate project proposals for consideration. The meeting was successful in confirming the commitment on the part of the United Nations system to the effective implementation of the Decade.

Regional Round Table on Disaster Mitigation Policies and Management (29 April-3 May 1991, Manila)

15. This Round Table was jointly organized at Manila/Puerto Azul by the Development Policy Forum of the German Foundation for International Development (DSE) and the National Disaster Coordinating Council of the Philippines in consultation with the Asian Disaster Preparedness Centre of the Asian Institute of Technology. The event was supported by the Government of Germany. It initiated a policy-level dialogue on an adequate governmental framework for natural disaster prevention that would match the goals of the Decade with the needs and resources of individual Asian countries. It also discussed the possibilities of international cooperation in this field and respective regional networking. The Round Table was attended by senior representatives from governmental and non-governmental organizations from China, India, Nepal, the Philippines, Sri Lanka and Viet Nam, including members of the Scientific and Technical Committee. The Director of the Decade secretariat and representatives from the United Nations system, the World Bank and the Asian Development Bank participated. The United Nations Disaster Relief Coordinator was represented.

International Conference on Disaster Communications (20-22 May 1991, Tampere, Finland)

16. This Conference was hosted by the Government of Finland and the city of Tampere and covened by the International Institute of Communications, in association with UNDRO, the International Telecommunication Union (ITU), the Office of the United Nations High Commissioner for Refugees (UNHCR) and the League of Red Cross and Red Crescent Societies. The Conference received major support from the Aamulehti Group of Finland and the Annenberg Washington Program in Communications Policy Studies at Northwestern University. The Conference adopted the Tampere Declaration on Disaster Communications, which reiterates the urgent need to improve international cooperation in communications and enhance national capabilities in order to reduce loss of life, damage to property and livelihoods, and damage caused to the environment

caused by disasters. To this end, the Declaration calls for the development of a convention on disaster communications, which should be viewed in the context of a future comprehensive accord on disaster management. The Conference was attended by experts from the fields of communications and disaster management representing both the public and private sector, as well as the United Nations system. It was chaired jointly by the United Nations Disaster Relief Coordinator, the Secretary-General of ITU and the Secretary-General of the League of Red Cross and Red Crescent Societies, and received wide media coverage.

E. The Scientific and Technical Committee

First session of the Scientific and Technical Committee of the International Decade for Natural Disaster Reduction (4-8 March 1991, Germany)

17. The first session of the Scientific and Technical Committee of the International Decade for Natural Disaster Reduction was held at Königswinter, near Bonn, from 4 to 8 March 1991, at the invitation of the German National Committee for the Decade and with the financial support of the Government of Germany. The meeting was chaired by Mr. James P. Bruce (Canada); 22 of the 25 members of the Committee attended. Fourteen representatives of organizations of the United Nations system and representatives of other governmental and non-governmental organizations, such as the International Council of Scientific Unions, the World Federation of Engineering Organizations, the Union of International Technical Associations and the League of Red Cross and Red Crescent Societies also participated. Agreement was reached on specific targets for the Decade, on the scope and framework of a Decade programme, on means of stimulating national committees and other participants, on an information strategy and on eight international demonstration "mega"-projects to launch the Decade's technical activities. The Scientific and Technical Committee also attached importance to dealing with natural disasters as an integral part of national development plans and in a coherent manner in relation to environmental issues. The second session of the Committee is planned for September and it is expected that the annual report of the Committee will be available as an addendum to the report of the Secretary-General at the forty-sixth session of the General Assembly. The following paragraphs provide an outline of the main recommendations made by the Scientific and Technical Committee at its first session concerning targets, a framework programme and project development and public information:

(a) Targets for achievement

The International Framework of Action set out in the annex to resolution 44/236 identifies the objective of the Decade as to reduce the loss of life, property damage and social and economic disruption caused by natural disasters, and to that end indicates five specific goals, which together provide an overall direction for action. Many post-disaster studies have demonstrated convincingly that certain mitigation measures have significantly reduced losses when a natural hazard strikes. For example, land use policies

that avoid hazards and construction practices that enable structures to withstand severe stress have clearly saved lives and reduced damage. Thus, one way to assess progress of the Decade is to evaluate the application of proven loss reduction practices. Likewise the setting of targets will provide a yardstick of progress not only at the conclusion of the Decade but also in the course of its implementation.

In defining targets for the Decade, the Scientific and Technical Committee agreed that by the year 2000 all countries, some through regional arrangements, should have in place, as part of their plans to achieve sustainable development:

(i) National assessments of risks to populations from various types of disasters (e.g. floods, droughts, earthquakes, tropical cyclones, volcanoes, landslides, etc.);

(ii) National and/or local prevention and preparedness plans;

(iii) Access to global, regional, national and local early warning systems.

It also agreed on procedures for evaluating progress towards those targets.

The Committee further considered that achievement of those targets would require annual contributions to the International Decade for Natural Disaster Reduction trust fund of the order of 8 million United States dollars, of which $2 million would be necessary to support the Special High-Level Council, the Scientific and Technical Committee and the secretariat, and $6 million for seed money to stimulate appropriate projects at the field level. The total overall expenditure during the Decade would be much higher. Nevertheless, it was considered that the envisaged achievement of the targets could entail a potential reduction in loss of life by more than 50 per cent and reduction in financial losses due to damage by from 10 to 40 per cent, depending on the nature of the hazard. It will be recalled that present global losses have been estimated by the World Bank as being in the range of 250,000 deaths and $4 billion in damages per year.

(b) Framework programme

In considering a framework programme the Scientific and Technical Committee decided to adopt an activity structure that was common to all types of disaster rather than a structure based on the types of disaster. It therefore adopted seven major categories of technical projects:

(i) Identification of hazard zones and hazard assessment;

(ii) Vulnerability and risk assessment, cost/benefit analysis;

(iii) Awareness at the level of decision and policy makers;

(iv) Monitoring, prediction and warning;

(v) Long-term preventive measures, both structural and non-structural;

(vi) Short-term protective measures and preparedness;

(vii) Early intervention measures.

The seven categories would be supported by three key activities:

(i) Education, training and public information;

(ii) Transfer of technology;

(iii) Research on technology and policy.

(c) Project development

The concept of project development as conceived by the Scientific and Technical Committee necessitated consideration of three distinct procedures: the development of criteria for project approval, the identification of such projects and the selection of key projects requiring urgent implementation. In so doing the Committee identified a number of demonstration projects falling within the latter category, a list of which will be made available. Steps are being taken to develop detailed plans for the implementation of those projects, including costing, duration and benefits to be derived from them. Subsequently, donors, including the national Governments concerned, will be invited to contribute the necessary resources and technical support for implementation on either a bilateral or multilateral basis or through the trust fund for the Decade.

(d) Public information

In its resolution 44/236, the General Assembly requested the Secretary-General, in close association with the relevant organizations of the United Nations system, in particular through the Department of Public Information of the Secretariat, to assist in the formulation and implementation during the Decade of public information programmes aimed at raising public awareness of disaster prevention.

The Scientific and Technical Committee considered this matter in the light of previous proposals offered by the Rome Think Tank meeting and the Inter-Agency Working Group. In particular, it agreed on the structure of a possible information strategy for the Decade and identified target audiences, strategies and modalities for information exchange and dissemination, as well as supportive actions for information exchange and dissemination.

The publication of the first issue of the IDNDR Newsletter, "Stop disasters", published in cooperation with the Osservatorio Vesuviano, Italy, was especially welcome. The Newsletter assists in the exchange of information among national committees and at the same time encourages and promotes their involvement in the activities of the Decade.

As regards the celebration of International Decade for Natural Disaster Reduction Day 1991, the Scientific and Technical Committee proposed that celebrations centre on the theme "Disaster Prevention, Development and Environment" and requested the secretariat to develop an appropriate slogan. National activities were to be encouraged and every effort should be made to inform national committees of events being organized elsewhere. It was noted that the IDNDR Newsletter would be an appropriate vehicle for conveying this information.

The Committee also noted that a special logo was being designed for the Decade and suggested that it could be incorporated in postage stamps that might be issued by Member States to commemorate the Decade.

III. ACTIVITIES OF THE UNITED NATIONS SYSTEM

18. In resolution 44/236, the General Assembly calls on organizations of the United Nations system and particularly UNDRO to assist countries in mitigating and preventing the effects of disasters. Most entities of the United Nations have initiated activities related to natural disaster prevention or mitigation, which are highlighted below, on the basis of information submitted by them.

Office of the United Nations Disaster Relief Coordinator

19. UNDRO is the only specialized body in the United Nations that deals exclusively with disasters and is the focal point for disaster management in the United Nations system. The tasks of UNDRO in relation to natural disasters encompass the complete disaster cycle, from the early warning phase preceding the actual impact or occurrence through the emergency management and response phase to the inclusion of disaster prevention aspects in reconstruction and rehabilitation and, finally, covering the issue of longer-term disaster mitigation, that is, applied disaster reduction as part of the development process. It is thus obvious that the majority of UNDRO activities during the reporting period have been directly related to the realization of the goals of the Decade.

20. UNDRO has continued to offer its specific expertise to the Decade secretariat and other entities within the Decade mechanism, inside and outside the United Nations, and has participated in the identification and evaluation of projects for possible inclusion in the programme of the Decade. In fact, UNDRO has developed several innovative approaches towards applying the Decade concept in a qualitative manner and going beyond a mere increase in volume. At the beginning of the Decade in particular, it has been considered imperative to initiate selected projects that successfully represent as many of the specific goals of the Decade, as possible and as such support and promote the establishment of concerted national strategies for its implementation.

21. On one side, the Relief Coordination Branch has continued to evaluate national and international disaster response and coordination activities in order to provide indicators on remaining gaps in those fields and to initiate adequate development, whether by streamlining the institutional or legal framework for emergency response or by upgrading the technical tools, that is, communication or information management systems, to secure a higher level of efficiency. A major search-and-rescue initiative has been undertaken within which an international workshop was held in cooperation with the Government of Austria. UNDRO has also continued its efforts to implement the recommendations of the International Conference on Disaster Communications of March 1990, organized within the International Decade for Natural Disaster Reduction, with the support of the Government of Germany.

22. On the other hand, the Disaster Mitigation Branch has strengthened cooperation with all its partners in disaster mitigation, particularly the specialized agencies of the United Nations, the national committees for the Decade, Governments, regional institutions, the scientific and technical community, and, of course, the Decade's institutions, with the secretariat foremost. It has assisted countries at risk through, inter alia, projects of disaster preparedness, training activities and the formulation of pre-disaster plans, feasibility studies on national and regional disaster management, and seminars and workshops on long-term disaster mitigation.

23. Since the beginning of the Decade, such mitigation activities have been started or are being executed at country level in Chile, China, Colombia, Ecuador, Egypt, Grenada, Indonesia, Iran, Nepal, the Philippines, Somalia, Thailand and the Union of Soviet Socialist Republics. On a regional level, UNDRO engaged in mitigation projects on the Caribbean, the Mediterranean and the South Pacific. After 10 years of successful disaster mitigation within the Pan-Caribbean Disaster Preparedness and Prevention Programme, and with the active participation of UNDRO, the experience gained is being translated into a new phase of regional cooperation in disaster management. In the Mediterranean region, within the Cooperative Project for Seismic Risk Reduction, all Mediterranean countries prone to seismic hazard are actively coordinating their efforts to apply existing scientific knowledge and technology to seismic hazard analysis, seismic vulnerability and risk assessment, and practical risk reduction. In Fiji, UNDRO has opened its South Pacific Project Office in cooperation with UNDP and at the request of the Governments of the South Pacific region in order to identify, and assist in, activities of pre- and post-disaster management that implement the goals and objectives of the Decade.

24. Discussions at various levels during the early phase of the Decade have clearly identified the need to assess and standardize terminology used in interdisciplinary and field/office communication in disaster-related activities. To this end, UNDRO is aiming at a widely accepted and coordinated glossary of terms in cooperation with and on the basis of existing partial terminological efforts of all concerned national institutions and international governmental and non-governmental organizations.

25. Continued and particular emphasis has been placed on two important strategic efforts to improve disaster management capabilities world wide. Together with UNDP, UNDRO has begun implementing the joint UNDRO/UNDP Disaster Management Training Programme. This programme aims at further professionalizing disaster management at the country level and within the United Nations system as a whole through sensitization, team-building and the provision of knowledge in order to integrate preventive planning firmly into the national development process. Policy makers are being made aware of the importance of according appropriate priority to the issue of disaster reduction, motivated to assess their national gaps and needs in this field and encouraged to develop national programmes and projects for international technical cooperation.

26. In the field of disaster-related information management, UNDRO has embarked on a project that builds on the existing United Nations International Emergency Network (UNIENET) and aims at creating an interactive electronic network for emergency management and disaster reduction purposes alike. Based on state-of-the-art technology, the system will comprise technical means for fast and reliable communication within the disaster management community, inform about available disaster-related information at all levels, provide access to such information sources and develop and maintain a limited number of core databases such as disaster statistics and a historical database. Within the project, countries at risk will be assisted to develop their own disaster-related data management systems, which can be integrated into the future global network.

Economic Commission for Europe

27. ECE has a number of specific activities related to the activities of the Decade, in particular in the areas of seismic events, forest fires, pollution and damage caused by storms, particularly in forest regions. Projects in each of these areas are being developed for implementation as Decade activities.

Economic and Social Commission for Asia and the Pacific

28. ESCAP covers a region with an overall population of about 3 billion, with 45 million more being added every year, and many of its member developing countries are situated in the world's hazard belts for earthquakes, windstorms, tidal waves, floods and drought. By some estimates, 85 per cent of the more than 4 million deaths from sudden natural disasters in the world in the period 1900-1990 occurred in Asia and the south-west Pacific. For the same period, windstorms and floods world wide accounted for almost 50 per cent of the nearly $100 billion total damage.

29. The frequency and intensity of adverse natural phenomena and the extensiveness and severity of the damage they cause seem to be increasing over time. Disastrous natural events struck the region again in 1988, 1989 and 1990 even before the full consequences of the adverse weather effects on the economies of the region in 1987 could be fully overcome. Cyclones, floods and drought affected the agricultural production of virtually the whole developing ESCAP region and very recently, in 1991, in a particularly disastrous way.

30. Losses due to natural disasters deprive developing countries of resources that could otherwise be used for economic and social development, thus further impeding their development process.

31. ESCAP's main activities in disaster mitigation address water-related disasters, the reduction of the impact of drought, the reduction of geologic disasters and disaster monitoring and warning. A study has been prepared on problems caused by natural disasters in selected least developed countries and island developing countries. A project on urban flood loss prevention was completed and a flood prevention manual is being published. Further water disaster projects are being initiated, including an assessment of the status of prevention in the region, and topical symposia on items of special interest are being organized.

32. In order to improve satellite crop monitoring, a regional evaluation seminar was held, which produced proposals for continuing the previous phase of this undertaking. Ongoing studies on geology for urban development and land use still continue and the resulting hazard maps have demonstrated their usefulness, particularly in human settlement planning. Remote-sensing techniques for the monitoring of natural disasters will continue to be examined, with a view to improving their use for least developed countries through transfer of technology.

World Food Programme

33. WFP is the food aid agency of the United Nations system and its main mandate in disaster situations is to respond to needs in the aftermath of an emergency. However, in its food-for-work activities in disaster-prone countries, WFP makes every effort to buttress the disaster prevention and preparedness structures, and to reinforce the people's capacity to withstand major food deficit crises. Projects are therefore prepared to take account of the national Decade committee programmes when these embrace people's food security considerations. These projects can be in various sectors of economic activity, but include mostly agroforestry, conservation of forests to stabilize hillsides and dune stabilization; physical conservation works, comprising various activities specifically designed to reduce the effects of natural disasters such as landslides, soil erosion, floods and storms; and rangeland management, protection of pastures and destocking and restocking of herds to reinforce the capacity of livestock herders to face up to seasonal and normal droughts.

34. Projects are currently being implemented in Bangladesh, China, Kenya and Indonesia.

World Health Organization

35. The involvement of WHO in disaster reduction has long stressed the importance of preventive measures and emergency preparedness. Moreover, WHO has given priority to linking disaster reduction measures to long-term development activities that ultimately strengthen the health preparedness and response capacities of its member States.

36. WHO has continued its support for the Decade through both headquarters and its regional offices and programmes. This has included part-time secondment to the Decade secretariat.

37. Recognizing the need to promote disaster reduction initiatives in health, WHO declared the theme of World Health Day 1991 as disaster preparedness. Preparations for this global event, which took place on 7 April, included development of an information kit and a children's poster competition. Moreover, WHO produced a public information brochure entitled "Should Disaster Strike ... Health in the International Decade for Natural Disaster Reduction", and a video, "Before Disaster Strikes", now available in English and French.

38. The first WHO Expert Panel on Emergency Relief Operations was convened at Geneva from 11 to 15 March. This defined in detail the scope of WHO's role in disaster prevention and preparedness.

39. In addition to headquarters initiatives taken to support the Decade, WHO's regional programmes have also promoted it. The Pan-American Health Organization (PAHO) has played a key technical role in implementing the first regional training of trainers course in Colombia as part of the Disaster Management Training Programme. This has been undertaken in collaboration with the Organization of American States (OAS), UNDRO and UNDP. Such inter-agency cooperation is expected to be applied in the regional training activities to be undertaken in Africa, in cooperation with the WHO Pan-African Centre for Emergency Preparedness and Response at Addis Ababa.

40. Following the endorsement of the Scientific and Technical Committee, the Emergency Preparedness and Response Programme of PAHO is currently preparing to convene a regional meeting of representatives of national committees for the Decade and other key government departments in September 1991.

41. WHO's Regional Office for South-East Asia at New Delhi will for the first time conduct technical discussions on disaster management when its Regional Committee convenes in the last quarter of 1991.

42. In the South Pacific, WHO has established close working links with UNDRO and UNDP in regional disaster mitigation, specifically reflected in the development of a pilot health sector project in Samoa.

43. These Decade initiatives reflect WHO's priority to work closely with partners at the national level as well as with United Nations and non-governmental agencies to support sustainable disaster reduction efforts in health world wide.

World Meteorological Organization

44. WMO has responsibility within the United Nations system for activities relating to meteorology, climatology and operational hydrology. Within the context of the Decade, the Organization takes a leading role concerning mitigation of disasters caused by (a) tropical cyclones; (b) floods;

(c) tornadoes and severe thunderstorms; (d) other severe weather phenomena such as storm surges and major snowstorms; (e) landslides and avalanches; and (f) droughts.

45. WMO contributes to the mitigation of other types of disaster by its involvement in the meteorological and hydrological aspects of insect plagues and in the dissemination over its Global Telecommunication System of tsunami warnings. WMO activities related to drought are covered in the paper "WMO Strategy on Drought and Desertification".

46. The WMO secretariat has participated actively at all levels in Decade activities; a WMO staff member and a consultant have been seconded to assist in the work of its secretariat.

47. The WMO Plan of Action for the International Decade for Natural Disaster Reduction, which sets out the varied actions that are being undertaken as the Organization's contribution to the Decade, was adopted by the Eleventh World Meteorological Congress, in May 1991.

48. Specifically, in many developing countries, the two great impediments to improvements at national level in the near term are (a) a lack of knowledge and expertise in the technology concerned; and (b) lack of funds to install, operate and maintain systems using existing technology and procedures.

49. The basic requirements to overcome these impediments are technical cooperation activities with an emphasis on technology transfer and/or institution-building, provision of equipment and facilities, and human resource development.

50. As a first step as regards special projects for the Decade, WMO has developed plans for three relatively low-cost projects specifically geared to the goals of the Decade. These should be very cost-effective and have a significant impact at both international and national levels. The three projects concern a tropical cyclone warning system for the south-west Indian Ocean region; comprehensive risk assessment; and technology exchange for natural disasters.

51. Contact has been established with the International Seismological Centre with regard to the second and third projects.

52. Plans have also been drawn up by WMO for a series of regional technical cooperation projects in connection with the Decade and negotiations are under way for their funding.

53. A video and special brochure have been produced by WMO, emphasizing the special role to be played by meteorological and hydrological services in the mitigation of natural disasters. These have proved most successful in publicizing the Decade and encouraging participation at the national level.

Food and Agriculture Organization of the United Nations

54. FAO has continued its active participation in the arrangements for the Decade.

55. FAO has set up an informal interdepartmental group for the coordination of inputs to the Decade.

56. The support provided to the Decade is in the context of FAO's constitutional role in all matters related to food and agriculture, in particular, its mandate for the development, utilization and conservation of natural resources. Many if not most of FAO technical capabilities and assistance activities are relevant to rational management of natural resources. These same capabilities relate to natural disaster assessment, prevention, preparedness, mitigation and relief rehabilitation.

57. In this context, cooperative activities between FAO and other United Nations organizations and bodies include the arrangements concluded recently between FAO and UNDRO with a view to strengthening information exchange through their respective information systems, the Global Information and Early Warning System of FAO and the United Nations International Emergency Network of UNDRO. Under these arrangements, UNDRO has made a "window" available in its Network to other emergency databases and bulletin boards, as well as to other network users through electronic mail. The facility is now operational.

58. The coordinating role played by FAO in the monitoring and control of the desert locust and other migratory pests through its Emergency Centre for Locust Operations has continued. This central reporting and forecasting service assists member countries and regional organizations in their efforts to monitor and contain infestations.

59. The creation in 1988 of the Africa Real-Time Environmental Monitoring Information System (ARTEMIS), a satellite data receiving and processing system operational at the FAO Remote Sensing Centre at Rome since August 1988, has proved to be a useful instrument also with respect to disaster-related activities. ARTEMIS is a joint undertaking by the National Aerospace Laboratory of the Netherlands, in cooperation with the United States space agency NASA and the University of Reading in the United Kingdom of Great Britain and Northern Ireland, funded by the Government of the Netherlands through a special FAO trust fund.

60. ARTEMIS provides a wealth of data and images, produced in real time, which permit, inter alia, the monitoring of the status of the rainy season over Africa and hence the provision of timely information for use by systems that address early warning for food security and locust monitoring and control operations.

61. In order for these data to be made available in a timely manner to the most interested parties, the developing countries, FAO has joined forces with the European Space Agency (ESA) to create DIANA (Data and Information now Available in Africa), a special satellite communications system that enables

the direct transmission of the ARTEMIS data to users at regional and national levels. It is expected that DIANA will begin its demonstration phase by November 1991, starting with a user terminal at Nairobi, and possibly at Accra and Djibouti.

United Nations Educational, Scientific and Cultural Organization

62. The UNESCO subprogramme on natural hazards has been aligned with the goals of the Decade. It concerns the development of scientific and technical knowledge and the means to understand the causes of natural disasters and to mitigate their effects.

63. The interdisciplinary approach has been broadened to include not only the scientific and technological aspects of risk evaluation and mitigation, but also the educational and social aspects.

64. The promotion of national and regional monitoring networks for earthquakes, volcanoes, landslides and tsunamis has been enhanced. The International Mobile Early Warning System for Volcanic Eruptions continued to operate. The design and construction of disaster-resistant educational buildings are being encouraged increasingly, as is the protection of cultural monuments against the violent forces of nature.

65. A special project concerning the preparation of training materials for natural disaster reduction has been launched by UNESCO, with financial support from European donor countries. The establishment of an international institute for earthquake engineering and seismology in Central Asia has started under UNESCO supervision. The First International Conference on Seismology and Earthquake Engineering and the International Forum on Seismic Zonation were organized under the aegis of UNESCO.

66. The contribution of UNESCO to the United Nations Conference on Environment and Development will take into consideration the Decade. UNESCO's intergovernmental programmes, such as Man and Biosphere, the International Hydrological Programme and the International Geological Correlation Programme, as well as the programmes of the Intergovernmental Oceanographic Commission, have contributed to the activities of the Decade.

67. The study of snowmelt and flash floods, of extraordinary rainfall and of water hazard reduction in low-lying coastal regions, particularly regarding sea-level changes, has been accelerated. The ongoing build-up of scientific capacities of Sahelian countries in the field of agro-sylvio-pastoral management is being strengthened significantly in a longer-term UNESCO project.

68. A video on the understanding of volcanic hazards has been produced by UNESCO. The organization is also printing a promotional brochure describing its potential contribution to the Decade.

International Civil Aviation Organization

69. ICAO moved swiftly to amend its regulatory documents to include requirements to provide volcanic ash warning to aircraft. In order to support the warning system, ICAO sought help from States and international organizations to form an international airways volcano watch based on an observing triad comprising aircraft reports, reports from ground-based observing stations and monitoring by satellite.

70. Participating in the watch are the International Air Transport Association and the International Federation of Air Line Pilots' Associations, which provide special air reports of volvanic activity; WMO, which arranges the provision of observations of volcanic activity from all the many international ground-based observing networks and coordinates the use of meteorological satellites and techniques for forecasting volcanic ash trajectories; and the World Organization of Volcano Observatories, which arranges for critically important observations from volcano observatories strategically sited near active volcanoes.

71. Current work is concentrated on consolidating and extending the international airways volcano watch and improving the warning system based on operational experience gained during volcanic eruptions near air routes in South-East Asia and North America.

The United Nations Centre for Human Settlements (Habitat)

72. In keeping with pertinent decisions of the Commission for Human Settlements, Habitat has kept up the pace of its assistance to Governments in various aspects of pre-disaster planning, preparedness and mitigation as they affect human settlements. In the area of seismic disasters, a scientific and technical report on post-earthquake reconstruction of human settlements in northern Armenia and follow-up recommendations as to appropriate measures to be taken in order to mitigate the effects of future telluric activity in the region has been prepared and submitted to the Government of the Soviet Union. A video film and a publication on mitigation of the effects of earthquakes on human settlements, containing the proceedings of a symposium held at Tbilisi (Georgian SSR) is being prepared for world-wide distribution. Upon the request of the Government of the Philippines, Habitat has assisted in the formulation of recommendations on the reconstruction of the earthquake-affected areas of the country. In central and eastern Nepal, Habitat is assisting the Government in enhancing the institutional capacity of the Ministry of Housing and Physical Planning to formulate, managing and monitoring reconstruction and rehabilitation programmes of houses, hospitals and basic infrastructure in the earthquake-affected areas of Nepal. In the Guilan and Zanjan provinces of Iran, the Centre is providing immediate technical assistance to post-earthquake reconstruction and rehabilitation, and is assisting with coordination of the mobilization and channelling of international contributions and assistance. The assistance also includes elements to enhance the Government's long-term disaster mitigation programme.

73. As regards floods, a rehabilitation and reconstruction programme for flood-damaged areas in Kashur Tehsil in the Punjab Province of Pakistan is in progress and is intended to serve as a model for demonstration and replication. Covering nearly the whole of Bangladesh, a reconstruction programme for rural housing in flood-affected areas has been set up in order to improve the supply, delivery and durability of building materials and techniques, and to identify proven, replicable housing delivery systems and programmes that are flood-mitigating and will form part of a national rural housing strategy. Following the devastations caused by Typhoon (No. 6) Irving, Habitat provided assistance to Viet Nam to develop and apply training materials and appropriate low-cost disaster-resistant building techniques. In the area of information dissemination, the Centre is currently preparing a manual on planning and management for disaster reduction.

IV. ORGANIZATIONAL AND FINANCIAL ARRANGEMENTS

The role of the Decade secretariat

74. The secretariat functions as catalyst, coordinator, stimulator, adviser and facilitator within the Decade community. Its main tasks include making contact with the various constituencies involved in Decade activities, organizing and participating in meetings and providing the necessary substantive and secretarial assistance to the other organizational elements established by the Decade, namely, the Special High-Level Council and the Scientific and Technical Committee. The secretariat is therefore seen as a centre for information and coordination, whereas operational responsibilities lie with Governments, UNDRO and other organizations of the United Nations system and other participants in the Decade, as requested by the General Assembly.

75. As seen in preceding paragraphs, the Rome Think Tank, the Inter-Agency Working Group and finally the Scientific and Technical Committee have all paid particular attention to ways and means of involving all potential participants in the activities of the Decade and come up with numerous proposals and recommendations, including many related to a much more active involvement of the private sector and particularly the insurance and financial institutions. In consultation with the Scientific and Technical Committee and in cooperation with UNDRO and other organizations of the United Nations system, the secretariat intends to pursue these avenues with a view to the full involvement of all interested parties in the Decade activities.

Trust fund

76. In its resolution 44/236, the General Assembly recommended that extrabudgetary resources be provided for implementation of Decade activities and therefore that voluntary contributions from Governments, international organizations and other sources, including the private sector, be strongly encouraged. To this end, it requested the Secretary-General to establish a trust fund, entrusted to his administration.

77. For implementation of Decade activities (in addition to national contributions), the situation of the fund is far from satisfactory. In 1990, a major contribution of $450,000 was received from Italy and the Government of France also made a contribution to the trust fund. A major contribution of a project character was received from the Federal Republic of Germany, as were some smaller project contributions from other countries. In 1991, a contribution of $408,000 was provided by Finland. In addition, Japan contributed $500,000 to the Human Resources Development Fund of UNDP for disaster mitigation activities in connection with the Decade.

78. In addition, support has been received from the United States of America through the financing in the amount of $350,000 of the secondment of a senior staff member to the secretariat. Likewise, WMO has assigned a senior staff member to assist the secretariat on a part-time basis and in 1990 also provided a consultant. WHO has also made available a staff member to assist on a part-time basis.

79. Clearly, urgent action is necessary if the trust fund is to support the activities of the Decade and the organizational units such as the Special High-Level Council, the Scientific and Technical Committee and the secretariat of the Decade.

V. CONCLUSIONS

80. It can be observed that in the period under review Member States have continued to gear up for the Decade, awareness of potential mitigation has increased as a result of workshops, topical activities and consultations, and United Nations agencies and non-governmental organizations, particularly those in the scientific sector, have engaged in serious efforts to develop projects and activities leading to improvement of the capacity to monitor hazards, with the ultimate objective of reducing vulnerability.

81. Some important tasks that lie ahead include:

(a) Study of the economics of disaster management, in particular a cost/benefit analysis of disaster mitigation;

(b) Integration of disaster vulnerability assessment in the national development process, with a view to ensuring that future investments and projects do not add to the overall vulnerability level, but on the contrary assist in reducing society's exposure to hazards;

(c) Commitment of new resources or programming of existing ones in such a way that disaster mitigation, once it has been recognized as a policy priority, also becomes a priority for implementation.

82. In order to achieve progress in the above areas towards the goals of reducing the number of victims and the damaging impact of disasters, continuing interaction with and support for national Committees for the Decade

will be required. As this is certainly a priority concern for implementation of the Decade, efforts will be made to enhance the support provided to national mitigation policies, through assistance to the national committees.

83. The demonstration projects that have been identified by the Scientific and Technical Committee constitute, in the context of the framework programme, a considerable body of disaster mitigation activities with an important potential for disaster vulnerability. It is now essential that, as specifically recommended by the General Assembly in paragraph 13 of the International Framework of Action for the Decade, they be taken into account in bilateral and multilateral cooperation; this is a necessary step in order to translate policy recommendations into actual activities having an effect on the reduction of mankind's exposure to natural disasters.

84. A major effort must be undertaken to implement a public information and education strategy for the Decade. In this early phase, the potential benefits of disaster mitigation must be explained and emphasized to inform adequately public opinion, policy makers and operational authorities of the possible ways and means to participate in the world wide effort to reduce losses of lives, material damage and economic disruption during the 1990s.

Annex

List of addresses of national committees and/or focal points

(As at 3 June 1991)

Mr. Dastagir Sadaqui
President
Office of Disaster Preparedness
Council of Ministers
Kabul
Republic of Afghanistan

Comité National des Risques Majeurs
Direction Générale de la Protection Civile
Ministère de l'Intérieur
Alger
Algérie

Mr. John DeNully
Chairman
National Disasters Services
American Road, St. John's
Antigua

Commodore C.J. Littleton, RAN
Director-General
Natural Disasters Organization
Department of Defence
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Canberra, ACT 2600
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Chairman, Austrian National Committee
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c/o Osterreichische Akademie der
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Dr. E. Kussbach
Minister
Austrian Ministry for Foreign Affairs
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Ballhausplatz 2
A-1014 Vienna
Austria

Hon. Sir Clement T. Maynard
Deputy Prime Minister
Chairman, National IDNDR Committee
P.O. Box N 3701
Nassau
Bahamas

Mr. Abdul Rahman Al Khalifa
Focal point for disaster relief
Director
Civil Defence and Fire Brigade
Ministry of Interior
P.O. Box 13
Manama
Bahrain

National Disaster Prevention Council
Ministry for Relief and Rehabilitation
Building No.4
Bangladesh Secretariat
Dhaka
Bangladesh

National IDNDR Committee
Académie Royale des Sciences,
Lettres et Beaux-Arts
Bruxelles
Belgium

National Office of Emergency Management
Mr. Henry Gordon
The Permanent Secretary
Prime Minister's Office
Belize City
Belize

Mr. Tshering Tashi
Head of National Environmental
Secretariat
Planning Commission
Thimphu
Bhutan

Eng. Sr. Adolfo Vargas
President
Bolivian National Committee for IDNDR
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The Department of Welfare, Youth
and Sport
Bandar Seri Begawan
Brunei Darussalam

Dr. M. Brainov, Vias
c/o Union des Travailleurs
Scientifiques de Bulgarie
1504 Sofia
Rue Oborichte
Bulgaria

Commission nationale de lutte
contre les effets de la sécheresse
Focal point for IDNDR
Burkina Faso

Dr. Alan Davenport
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Boundary Layer Wind Tunnel Lab.
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Colonel Didace N'Dayen
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B.P. 1859
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Ministry of Civil Affairs
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Mr. Camilo Cardenas Giraldo
Chief, National Office for
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Via the Technical Secretariat
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Santo Domingo
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